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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/329,889	06/10/1999	STEPHANE BOUSSAC	005974/00011	8734

27383 7590 03/25/2003

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200 PARK AVENUE
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EXAMINER

THANGAVELU, KANDASAMY

ART UNIT	PAPER NUMBER
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2123

DATE MAILED: 03/25/2003

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Please find below and/or attached an Office communication concerning this application or proceeding.

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Office Action Summary

Application No.

09/329,889

Applicant(s)

BOUSSAC ET AL.

Examiner

Kandasamy Thangavelu

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07 February 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☐ Claim(s) _____ is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 25,27,28,30,31,33-36 and 38 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 10 June 1999 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Introduction

1. This communication is in response to the Applicants' Amendment dated February 7, 2003. Claims 26, 29, 32, 37 and 39 were deleted. Claims 25, 27, 30-31 and 33-36 were amended. Claims 25, 27-28, 30-31, 33-36 and 38 of the application are pending.

Response to Arguments

2. Applicants' arguments filed on February 7, 2003 have been fully considered.

Applicants' arguments with respect to rejections under 35 U.S.C. 112 First Paragraph and under 35 U.S.C. 112 Second Paragraph dealing with free neighborhood, tangent zone and material zone are persuasive, and hence those rejections are withdrawn. However, new rejections under 35 U.S.C. 112 First Paragraph and under 35 U.S.C. 112 Second Paragraph are included covering the amended claims. This office action is made non-final based on the Request for Continued Examination (RCE).

Drawings

3. This application has been filed with informal drawings that are acceptable for examination purposes only. Formal drawings will be required when the application is allowed.

The draft person has objected to the drawings; see a copy of Form PTO-948 sent with a previous office action, for an explanation.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the first paragraph of 35 U.S.C. §112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

5. Claims 25, 27-28, 30-31, 33-36 and 38 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

- 5.1 Claim 25 includes the following limitations in-part:

determining a subset of the polygons such that each polygon in said subset has a trajectory through its corresponding second zone during motion of the modeled object from a preceding position to a current position and from the current position to a next position where each such polygon's second zone comprises a zone represented by a half sphere, said half sphere comprising a flat face that is planar with said polygon and said half sphere extending interior to the modeled object [lines 16-22; emphasis added];

and

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constructing a representation of the swept volume from the generated traces of the motion of the subset of edges, wherein constructing a representation of the swept volume further comprises bounding the swept volume at each of said current positions in said series by said subset of polygons associated with each such current position” [lines 25-29].

The concept of bounding the swept volume at each of the current positions in the series by said subset of polygons associated with each such current position is understood. However, the concept of *a polygon in the subset having a trajectory through a second zone* during motion of the modeled object from a preceding position to a current position or from the current position to a next position, where such polygon's *second zone comprises a zone represented by a half sphere*, the half sphere comprising a flat face that is planar with the polygon and *the half sphere extending interior to the modeled object* is conceptually impossible and appears to be incorrect. How the polygon will execute such trajectory *through a second zone represented by a half sphere extending interior to the modeled object* during its motion has not been properly explained in the specification. It is impossible to understand how a polygon, e.g. a triangle, a rectangle or a hexagon will execute a trajectory *through a half sphere extending interior to the modeled object* and be part of the boundary of the swept volume. For example, when a book is rotated about an axis the end rectangles produce half cylinders, which are not entirely within the material of the object. The applicants have failed to provide proper explanation in the specification making it impossible for one of ordinary skill in the art to make and use the system.

5.2 Claim 31 includes the following limitations in-part:

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a subset of the polygons is determined such that each polygon in said subset has a trajectory through its corresponding second zone during motion of the modeled object from a preceding position to a current position and from the current position to a next position and **where each such polygon's second zone comprises a zone represented by a half sphere**, said half sphere comprising a flat face that is planar with said polygon and **said half sphere extending interior to the modeled object** [lines 24-31; emphasis added];

and

a representation of the swept volume is constructed from the traces of the subset of edges, and bounded at each of said current positions in said series by said subset of polygons associated with each such current position [lines 34-36].

The concept of bounding the swept volume at each of the current positions in the series by said subset of polygons associated with each such current position is understood. However, the concept of *a polygon in the subset having a trajectory through a second zone* during motion of the modeled object from a preceding position to a current position or from the current position to a next position, where such polygon's *second zone comprises a zone represented by a half sphere*, the half sphere comprising a flat face that is planar with the polygon and *the half sphere extending interior to the modeled object* is conceptually impossible and appears to be incorrect. How the polygon will execute such trajectory *through a second zone represented by a half sphere extending interior to the modeled object* during its motion has not been properly explained in the specification. It is impossible to understand how a polygon, e.g. a triangle, a

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rectangle or a hexagon will execute a trajectory *through a half sphere extending interior to the modeled object* and be part of the boundary of the swept volume. For example, when a book is rotated about an axis the end rectangles produce half cylinders, which are not entirely within the material of the object. The applicants have failed to provide proper explanation in the specification making it impossible for one of ordinary skill in the art to make and use the system.

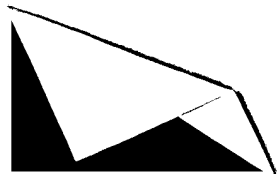
5.3 Claim 35 includes the following limitations in-part:

determining a subset of the polygons such that each polygon in said subset has a trajectory through its corresponding second zone during motion of the modeled object from a preceding position to a current position and from the current position to a next position **where each such polygon's second zone comprises a zone represented by a half sphere**, said half sphere comprising a flat face that is planar with said polygon and **said half sphere extending interior to the modeled object** [lines 16-23; emphasis added];

and

construct a representation of the swept volume from the traces of the subset of edges, and bounded at each of said current positions in said series by said subset of polygons associated with each such current position" [lines 34-36].

The concept of bounding the swept volume at each of the current positions in the series by said subset of polygons associated with each such current position is understood. However, the concept of a *polygon in the subset having a trajectory through a second zone* during motion



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of the modeled object from a preceding position to a current position or from the current position to a next position, where such polygon's *second zone comprises a zone represented by a half sphere*, the half sphere comprising a flat face that is planar with the polygon and *the half sphere extending interior to the modeled object* is conceptually impossible and appears to be incorrect.

How the polygon will execute such trajectory *through a second zone represented by a half sphere extending interior to the modeled object* during its motion has not been properly explained in the specification. It is impossible to understand how a polygon, e.g. a triangle, a rectangle or a hexagon will execute a trajectory *through a half sphere extending interior to the modeled object* and be part of the boundary of the swept volume. For example, when a book is rotated about an axis the end rectangles produce half cylinders, which are not entirely within the material of the object. The applicants have failed to provide proper explanation in the specification making it impossible for one of ordinary skill in the art to make and use the system.

5.4 Claim 36 includes the following limitations in-part:

determining a subset of the edges such that each edge in said subset has a trajectory through its corresponding second zone during motion of the modeled object from a preceding position to a current position and from the current position to a next position and **where each such polygon's second zone comprises a [material] zone represented by a half circle**, said half circle comprising a flat face that is aligned along said edge and **said half circle extending interior to the modeled object** [lines 15-21; emphasis added];

and

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constructing a representation of the swept volume from the generated traces of the motion of the subset of vertices and edges [lines 24-25].

The concept of constructing a representation of the swept volume from the generated traces of the motion of the subset of vertices and edges is understood. However, the concept of *an edge in the subset having a trajectory through a second zone* during motion of the modeled object from a preceding position to a current position or from the current position to a next position, where such edge's *second zone comprises a zone represented by a half circle*, the half circle comprising a flat face that is aligned along the edge and *the half circle extending interior to the modeled object* is conceptually impossible and appears to be incorrect. How the edge will execute such trajectory *through a second zone represented by a half circle e extending interior to the modeled object* during its motion has not been properly explained in the specification. It is impossible to understand how an edge will execute a trajectory *through a half circle extending interior to the modeled object* and be part of the boundary of the swept volume. For example, when a book is rotated about an axis the end edges produce half cylinders, which are not entirely within the material of the object. The applicants have failed to provide proper explanation in the specification making it impossible for one of ordinary skill in the art to make and use the system.

The claims not rejected directly are rejected because of their dependence on the rejected claims.


Conclusion

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dr. Kandasamy Thangavelu whose telephone number is 703-305-0043. The examiner can normally be reached on Monday through Friday from 8:00 AM to 5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kevin Teska, can be reached on (703) 305-9704. The fax phone number for the organization where this application or proceeding is assigned is 703-746-7329.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-9600.

K. Thangavelu
Art Unit 2123
March 13, 2003


SAMUEL BRODA, ESQ.
PRIMARY EXAMINER